

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Barton 3 AUM Site

Navajo AUM Northern Region

Prepared by:

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Contract: W91238-06-F-0083

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August 2010

Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 220**Map ID:** N6**CERCLIS:** NNN000908998**Navajo Abandoned Mine Land Reclamation Program:** NA-0508A**Local name / Aliases:** Barton #3; King #8**Chapter and local area:** Red Mesa Chapter**County:** Apache **State:** Arizona**Lat/Long:** 36.939162775 N / -109.44679758 W**Nearby road and highway:** Highway 160 **Local Post Office:** Teec Nos Pos**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land**☒**Private**☐**Bureau of Land Mgmt**☐**State**☐**Public lands**☐**Tribal Fee Land**☐**Allotment**☐**Fee land**☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Lewis Barton in 1954. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None**Estimated volume of mine waste onsite:** None

Part II Summary of radiological readings

Highest gamma radiation measurement:

83,149 counts per minute (cpm)

Describe any other radiological measurements:

A total of 1,772 gamma radiation measurements were collected from the mine site, ranging from 6,862 cpm to 83,149 cpm. Measurements collected in the vicinity of the drainage below the cap area were found at levels up to approximately 50,000 cpm. Rocks used as building materials at and around the houses and church approximately 0.2 miles northeast of the site were found to have levels of greater than 100,000 cpm. The measurements are represented in Figures 1 and 2.

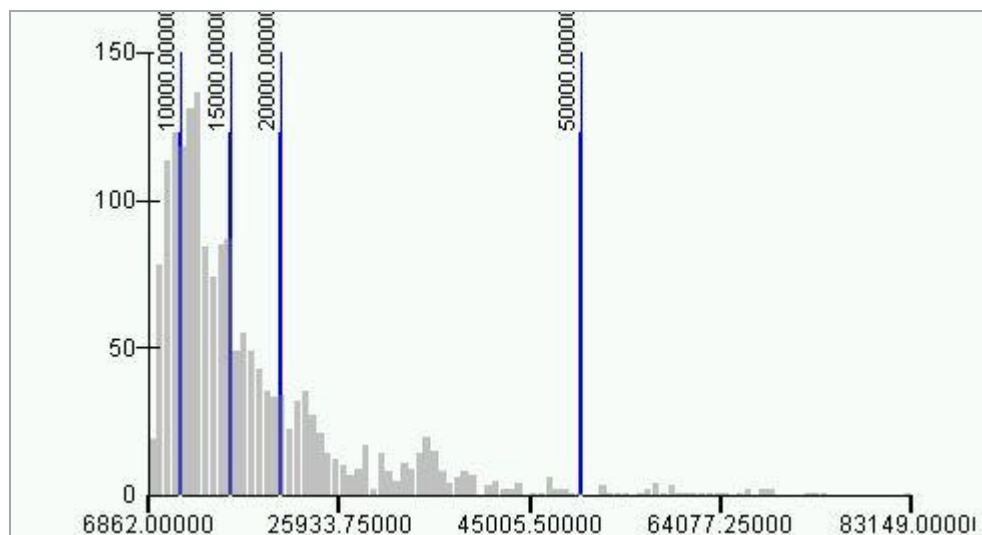
Background Locations

#1 8,232 cpm

Average background = 8,232 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	1772
Minimum:	6862.00000
Maximum:	83149.00000
Sum:	30154372.00000
Mean:	17017.13995
Median:	13664.00000
Standard Deviation:	10314.77818

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : Yes Waste Pile onsite : No

NAMLRP Project Number: NA-0508A

NAMLRP Mine features: 1 Waste Pile

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

Potentially capped waste pile

Pits

Small pits along stratigraphic level

Shafts

None

Other Debris and Mine Features

None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: 7 houses approximately 0.2 miles NE of site

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: Church approximately 0.2 miles NE of site, reported to have 50 attendees

Levels measured around the perimeter(s) of the identified structure(s):

Rocks used as building materials at and around the houses and church approximately 0.2 miles northeast of the site were found to have gamma radiation levels of greater than 100,000 cpm.

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: None

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Barton 3 mine consists of an area of 2,619.49 m². The mine was identified as being operational in 1954. Historical documents showed the operator of the mine as Lewis Barton in 1954. While operational, the mine had a total reported production volume of 31 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Barton 3

Chapter: Red Mesa

Decision Criteria

Is there an unreclaimed waste pile at the site? No

At what distance from the waste pile is the nearest residential structure located? None

At what distances from the waste pile are there potential drinking water sources? None

Is there a reclamation cap or sealed adit in place at the site? Yes

Is the cap/seal functionally intact? Yes

Is the cap/seal sufficiently degraded to create a concern about releases? No

At what distance from the cap/seal is the nearest domestic structure located? 0.2 mi

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

Elevated gamma readings found in rocks near the church and housing compound, approximately 0.2 mi NE of site

Summary hazard ranking system factors

None

Summary of reclamation factors

Potentially capped waste pile; small pits

Part VI Photos



Photo 1. Barton 3 site



Photo 2. Barton 3 site



Photo 3. Barton 3 site, housing compound 0.2 mi NE of site, with elevated gamma readings



Photo 4. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 5. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 6. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 7. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 8. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 9. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 10. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 11. Barton 3 site, housing compound 0.2 mi NE of site, rocks with elevated gamma readings



Photo 12. Barton 3 site, housing compound 0.2 mi NE of site, with elevated gamma readings



Photo 13. Barton 3 site, housing compound 0.2 mi NE of site, with elevated gamma readings



Photo 14. Barton 3 site, housing compound 0.2 mi NE of site, with elevated gamma readings



Photo 15. Barton 3 site, church 0.2 mi NE of site, with elevated gamma readings



Photo 16. Barton 3 site, church 0.2 mi NE of site, with elevated gamma readings

Part VII Contacts Reports and InformationName: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any) Navajo EPA Superfund ProgramAddress___ PO Box 2946, Window Rock, AZ 86515Information provided Lead Regulatory Agency

Name: Jennie DeeTitle or official role (if any) Local residentAddress___ PO Box 439 Teec Nos PosInformation provided Local / church information

Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

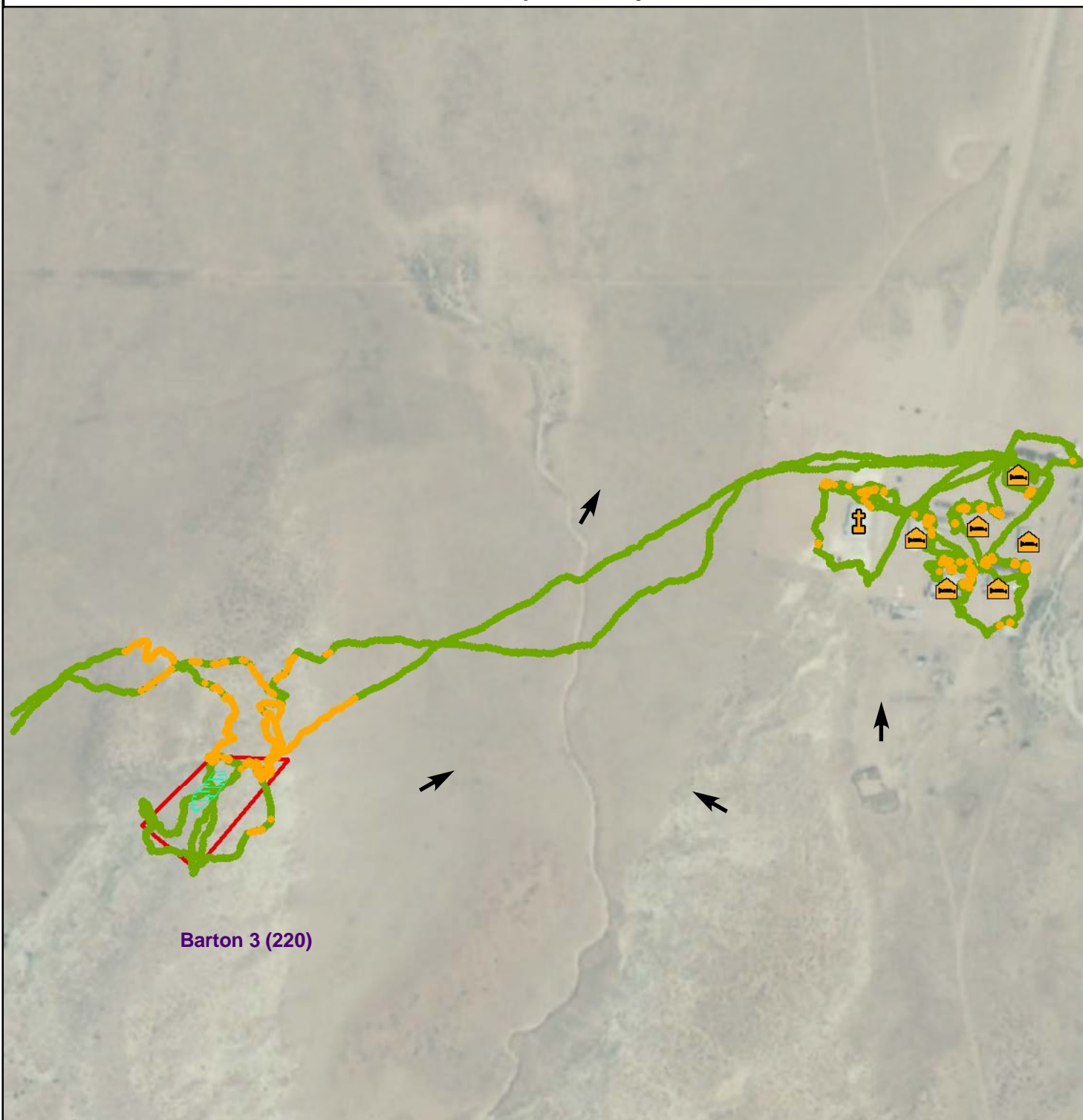
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Barton 3 (220)
Red Mesa Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 06/2010
Measured as counts per minute (cpm)

Average background = 8,232 cpm

- ➔ General Direction Down-Slope
- ▭ Mine Claim Boundaries
- ▨ Observed Reclamation Cap
- 🏠 Observed Housing Structure
- ⛪ Observed Church

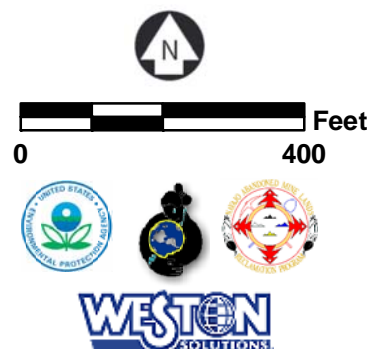
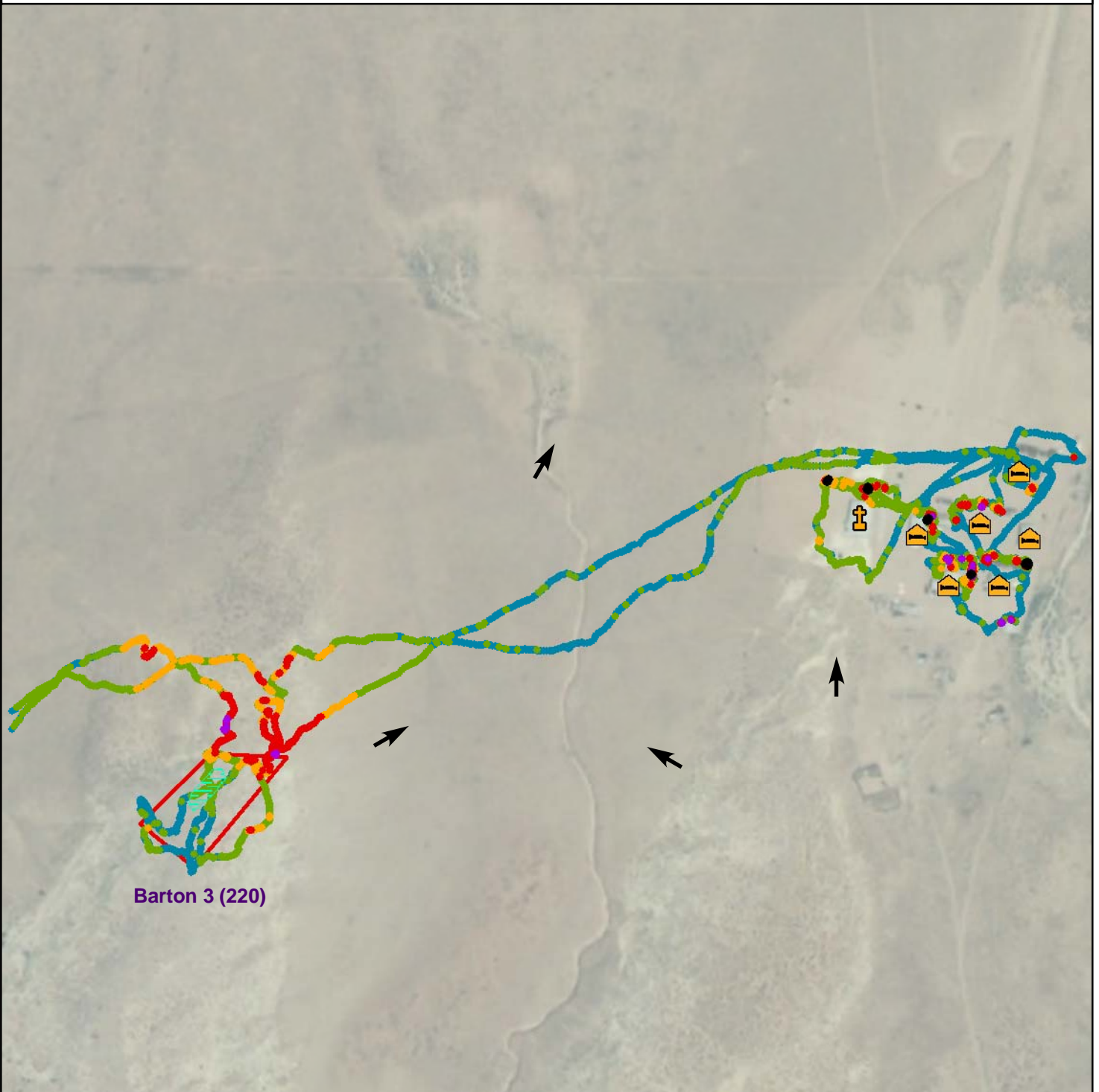


Figure 2 - Gamma Radiation Measurements
Barton 3 (220)
Red Mesa Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

- ➔ General Direction Down-Slope
- ▭ Mine Claim Boundaries
- ▨ Observed Reclamation Cap
- 🏠 Observed Housing Structure
- ⛪ Observed Church

Gamma survey conducted 06/2010
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